Quasi-experimental impact estimates of immigrant labor supply shocks: The role of treatment and comparison group matching and relative skill composition

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ABSTRACT

This paper examines the employment effects of a large burst of immigration—the politically-driven exodus of ethnic Turks from Bulgaria into Turkey in 1989. In some locations, the rise in the labor force due to this inflow of repatriates was 5–10%. The strong involvement of the Turkish state in the settlement of earlier waves of repatriates provides us a strong source of exogenous variation in the 1989 immigrant shock across locations and brings our study closer to an ideal natural experiment. We find that a 1% increase in the labor force due to repatriates increases the unemployment rate of native men by about 0.3 percentage points 14 months after the end of the repatriate flow. When the analysis is done according to skill groups, the impact on non-repatriates is the strongest among the young and those with similar educational attainment to repatriates. Using a reservoir of 342 cities and towns with variable treatment intensity, we also construct a matched sample that is well balanced in terms of covariate distributions of the treatment and comparison groups—using propensity score matching. Using this methodology, we demonstrate the importance of constructing well-matched samples prior to IV estimation—which leads to impact estimates that are more than 50% higher than those with the baseline sample.

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1. Introduction

This paper seeks to identify the impacts of immigration on employment prospects of the native born, using an unexpected large-scale exodus of ethnic Turks from Bulgaria into Turkey within a span of 3 months in 1989, which resulted from political events. The context is similar to other natural experiment studies where an exodus of immigrants due to political factors in sending countries result in large supply shocks in the labor markets of receiving countries (Card, 1990; Hunt, 1992; Carrington and Delima, 1996; Friedberg, 2001; Mansour, 2010; Glitz, 2012; Cohen-Goldner and Paserman, 2011).[1] However,

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[1] Similar to so called "area studies" (see, e.g., Altonji and Card, 1991; LaLonde and Topel, 1991; Pischke and Velling, 1997; Boustan et al., 2010), the natural experiments approach defines labor markets by geography and exploits the geographic variation in immigrant supply shock for identification. Studies in this literature mostly report small or no impact of immigration on native outcomes. An alternative approach exploits variation in the size of immigrant supply shocks across skill groups at the national level and reports a range of estimates that tend to be larger than those in area studies (Borjas et al., 1992, 1996, 1997; Borjas 2003; Aydemir and Borjas, 2007; Manacorda et al., 2011; Ottaviano and Peri, 2011; Dustmann et al., 2013).

our study overcomes some important problems common to this large literature on immigrants' effects on natives' economic outcomes and provides a detailed account of the impact of this labor supply shock across various labor market groups.

An important advantage of studies that exploit natural experiments is that since these flows are initiated by political factors, the flows are largely independent of general economic conditions in both the sending and the receiving countries. The natural experiment in our study, the emigration of ethnic Turks from Bulgaria driven by the assimilation campaign in Bulgaria, is a typical case of political migration (Vasileva, 1992). This emigration was not driven by economic decisions of repatriates, and the resulting supply shock was unpredicted in the Turkish labor market. The Turkish government opened its borders partly in response to an international outcry for the worsening situation of ethnic Turks in Bulgaria (Amnesty International, 1986) and for internal political reasons. Therefore, the actions of neither the Bulgarian nor the Turkish government were associated with the past or future employment outcomes in Turkey.

A major threat to identification for area studies, including the type of natural experiments above, is that immigrants may choose to settle in locations in the receiving country that have better labor market prospects. This means that shocks across local labor markets are not random, which results in a downward bias in the estimated impacts. For this reason, many studies that follow the area approach use the immigrant stock in a previous time period as an instrument for the location choices of new immigrants (e.g., Altonji and Card, 1991; Schoeni, 1997; Card, 2001). We take a similar approach using the facts that there were several waves of repatriates from Bulgaria prior to the 1989 flow and that many of the 1989 repatriates chose to settle in regions where previous waves of repatriates from Bulgaria resided. Importantly, however, our instrument for immigrant location—the settlement patterns of earlier waves of immigrants—eschews the problems of the canonical Altonji–Card instrument due to the state involvement in these patterns.

Even when new immigrants choose their locations according to their compatriots' location of residence, if the distribution of the location of residence of their compatriots is correlated with the economic conditions across these locations, questions would arise about the validity of the instrument. However, unlike the previous literature using this type of an instrument, in the Turkish context, historically, the state organized the migration of ethnic Turks from Europe by choosing the locations of settlement for these migrants according to the similarity of climate and land characteristics to the origin areas and by constructing housing for them in these regions. This provides a unique opportunity for the identification of the effects of immigrant supply shocks because, in many cases in our setting, while a certain city received a sizeable amount of immigrant flow, another city with very similar characteristics that is only 50 miles away did not receive any immigrants.[2] We provide both historical and current substantial evidence supporting that the resulting initial settlement regions of earlier compatriots were independent of economic conditions and these earlier compatriots did not relocate significantly due to economic reasons before the arrival of 1989 repatriates.

Our data allow us to examine the employment impact of these repatriates at a finer level compared to the previous literature: across 342 cities and towns in Turkey with a population above 10,000 in 1985. The labor market conditions of these 342 locations, both before and after the labor supply shock, are observed in our data. Out of these 342 locations, 99 received varying levels of immigrant shocks. Thus, our results represent a weighted average of the effect of labor supply shock across many locations which reduces the likelihood that the results are driven by other unobserved shocks that may be affecting a particular location. While the size of the shock was only about 0.7% of the Turkish labor force, the geographical concentration of repatriates led to much larger increases in certain locations; in fact, the rise in the labor force was above 10% in 2 locations. Among the top twenty destinations where repatriates settled, the average increase in the labor force due to repatriates was 4.0%. The size of the shock is among the largest shocks reported in literature exploiting natural experiments.

Another important feature of our natural experiment is that the shock is realized over a very short period of time of only 3 months. However, this is not an oft-seen property of the studies utilizing natural experiments in this field—the exceptions are Card (1990) and Hunt (1992)—as immigration is typically realized over longer periods of time. When immigration takes place over longer periods of time, the shock could be partly expected, leading to adjustments in the market, whereas the labor supply shock was not expected in our case. In addition, the fact that there were no other major shocks to the economy when the 1989 immigrant flow was realized aids identification. Finally, the evidence we present for the lack of response in terms of native migration yields more justification to our methodology.

Several papers estimating the effect of immigration on the labor market distinguish between skill groups (see, e.g. Altonji and Card, 1991; Card, 2001; Friedberg, 2001; Borjas, 2003; Dustmann et al., 2005; Jaeger, 2007; Aydemir and Borjas, 2007; Dustmann et al., 2017). Similarly, Hunt (2006) documents different emigration responses across age groups to changing labor market conditions. According to economic theory, the groups that are close substitutes to immigrants are the ones that are most likely to be negatively affected by an immigrant supply shock. Another contribution of this paper is that, unlike the previous studies using natural experiments and local-areas approach, we estimate the employment impact of the increase in labor supply by gender, education and age, separately.[3] These estimates not only show the heterogeneity in the impact of the supply shock but also verify that estimated impacts are larger for skill groups that are close substitutes with the immigrants.

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[2] Yet, virtually nobody would commute this distance for work in Turkey in 1989.

[3] An important feature of the Turkish labor market is the presence of a large informal sector. However, our data do not allow us to distinguish between workers in the formal and informal sectors. We discuss this issue in more detail in Section 4.